ABSTRACT OF THE DISCLOSURE

The present invention determines those mathematical processes that are repeated in the standard search schema, and uses this information to simplify the process by eliminating repetition of processes that have already been performed. The present information can be implemented in standard circuitry and with fewer instructions than the standard approach. As such, the present invention allows for receiver implementations that are of lower cost and lower power consumption, while achieving the same functionality as the standard receiver topology. The present invention achieves these goals by forming a lookup table of partial accumulations, and presents a method to efficiently address these partial accumulations for use during the accumulation and correlation processes performed by the receiver. These partial accumulations are in turn added together, or accumulated, to form the total accumulation over the desired time period. This eliminates the need of a specific operation of multiplication, or equivalent, on the incoming data. The present invention details a method for grouping similar operations, and presents a series of operations to utilize these groups for replacing a portion of the correlations and additions that would be carried out in the classical approach.